

Serial No. 10/729,347
Wakefield, et al.
Filed December 5, 2003

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Response to Office Action
Examiner: Mark A. Radke
Group Art Unit: 2165

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORS: Todd D. Wakefield and David L. Bean

TITLE: Methods and Systems for Providing A Service for Producing
Structured Data Elements From Free Text Sources

FILING DATE: December 5, 2003 **EXAMINER NAME:** Sathyanaraya R. Pannala

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REMARKS

A terminal disclaimer is attached to overcome the double patenting rejection.
The claim objection has been addressed through the amendment above.
The section 101 rejection has been addressed through the amendment above.
The section 112 rejection has been addressed through the amendment above.

Applicant traverses the section 103 rejection as Applicant does not believe a prima facie case of obviousness has been established. Neither the Budzinski patent nor the Bauman patent discloses a system for producing structured records from free text. Nor do Budzinski or Bauman disclose the particular steps of such a system as recited by the pending claims.

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Budzinski discloses a knowledge representation and question and answer system. A user inputs information into the system and subsequently inputs and the system performs a primarily semantic parse of the information (with no thematic identification) and then maps the interpreted information to a graph representation of knowledge. A user subsequently inputs a question into the system, the system parses the question, and if the question pertains to a topic encompassed by the information previously input, the systems attempts to map the interpreted question to one of the system's existing graph representations of knowledge. Further processing that produces a path through the graph that then gets mapped back out to English through a language generation process. This is a completely different field than the instant invention. Applicants' invention does not teach question-answering, knowledge representation systems, or language generation process which are what Budzinski is about.

The Bauman patent discloses a non-NLP (natural language processing) artificial intelligence system which does not disclose extracting attributes from free text as claimed in the instant invention. In fact Bauman has nothing to do with processing unstructured textual data. In fact, the term "unstructured" appears nowhere in the entire patent, and the term "text" appears only a few times, and never in a context suggesting any type of information extraction or other method of structuring free form text. Simply put, Bauman is in a completely different field than Applicants' invention.

Bauman's disclosure is unrelated to the field of natural language processing and information extraction. Instead it is related to a distinct artificial intelligence sub-field known as "blackboard systems."

A blackboard system combines individually developed software systems and modules into a single integrated application to address a complex problem. In computer science, a blackboard system is understood as comprising an area of shared memory, referred to as the blackboard, that contains a problem to be solved and a collection of software agents or processes, often referred to as knowledge sources, that can access and modify the blackboard. Each agent

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scans the changes to the blackboard, and posts an updated partial solution based on the state of the blackboard whenever its own internal conditions for doing so are met. These partial solutions cause other agents to update their portions of the solution on the blackboard until eventually an answer is found. In this fashion, the agents work together to solve the problem.

The following scenario helps illustrate what a blackboard system does and why it's called a blackboard system:

A group of specialists are seated in a room with a large blackboard. The specialists are working as a team to brainstorm a solution to a problem, using the blackboard as the workplace for cooperatively developing the solution. The session begins when the problem specifications are written onto the blackboard. The specialists all watch the blackboard, looking for an opportunity to apply their expertise to the developing solution. When someone writes something on the blackboard that allows another specialist to apply her expertise, he records his contribution on the blackboard, hopefully enabling other specialists to apply their expertise. This process of adding contributions to the blackboard continues until the problem has been solved.

A blackboard system is designed to enable this flexible brainstorming style of interaction between computer programs.

The Bauman patent discloses a software system designed to apply computer technology to the problem of plant optimization - in particular through the use of simulation techniques. However, as Bauman explains, because of the complexity of plant environments, simulation and optimization can span a diverse range of specialties. Use of a blackboard system helps integrate these specialties, and in particular the knowledge of these specialties that is encoded into rules (i.e., for case based reasoning systems).

Notably, none of the claims in Bauman even reference the terms "unstructured" or "text" or "language." And in the explanation sections, there is no reference to information extraction or

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any other natural language processing techniques. The closest thing is reference to the encoding of plant operations knowledge in the form of ontological representations in the way that a case-based reasoning system might access that knowledge.

As to the particular elements of Applicants' claims, those elements are not found in Bauman, Budzinski or a combination of them. Some of the elements are highlighted below.

Applicant has recited "reading an access reference through said input device set, the access reference referencing a customer's source of unstructured data, the unstructured data including free text". Neither Bauman nor Budzinski access customer data in unstructured format as neither has any intention of extracting attributes or creating structured data from a customer's free text.

Applicant has recited "Identifying text records within the free text". Neither Bauman nor Budzinski identify text records within a customer's free text because they are not attempting to address such a problem.

Applicant has recited "linguistically parsing the identified text records". Neither Bauman nor Budzinski do this because they are not interested in extracting linguistic information from customer data records.

Applicant has recited "Identifying roles within the parsed text records, said identifying producing attribute extractions, each of said attribute extractions containing attribute information of the derived source text". Neither Bauman nor Budzinski use parsing to identify roles within parsed text records of customer data in order to extract attribute information. This is simply a problem that Budzinski and Bauman were not faced with.

Applicant has recited "applying caseframes to the attribute extractions, said applying caseframes producing a filtered set of attribute_extractions". Neither Bauman nor Budzinski

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attempt this as they have no need to do so. They are not attempting to obtain useful information from customer records of free text, so the step of applying caseframes to attribute extractions is not disclosed in Bauman or Budzinski.

Applicant has recited "producing a structured data element stored on computer-readable storage media containing the filtered set of extractions." Neither Bauman nor Budzinski create structured data elements from extractions which were created by applying caseframes after parsing customer free text data records. That disclosure simply is not in Bauman or Budzinski.

Because these elements (and others recited in Applicants' patent claims) are not disclosed in Bauman, Budzinski or a combination of them, no prima facie case of obviousness has been established and the rejection should be withdrawn.

Reconsideration is requested.

Respectfully submitted this 18th day of November, 2006.



Daniel P. McCarthy
Reg. No. 36,600
P.O. Box 71550
Salt Lake City, UT 84171-0550
Tel 801 681 8998
Fax 435 615 9669
Email: dmccart@xmission.com